



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/524,455

02/10/2005

Eberhard Perplies

2002DE430

8656

7590

05/22/2008

Klaus Schweitzer

ProPat

425 C South Sharon Amity Road

Charlotte, NC 28211

EXAMINER

BLAND, LAYLA D

ART UNIT

PAPER NUMBER

1623

MAIL DATE

DELIVERY MODE

05/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,455	Applicant(s) PERPLIES ET AL.	
	Examiner LAYLA BLAND	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-9, 11, 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 11, 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is a response to Applicant's amendment submitted March 20, 2008, wherein claim 1 is amended, and new claim 12 is added. Claims 1, 3-9, 11, and 12 are examined on the merits herein.

In view of Applicant's amendment submitted March 20, 2008, the rejection of claim 1 under 35 USC 112, second paragraph, for being indefinite with respect to "temporarily cross-linked cellulose ethers" is withdrawn.

The following rejections of record are maintained and modified to include new claim 12:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-9, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (and dependent claims) recites the limitation "solvation delay." Solvation delay is described in the specification as to mean that after mixing the components, including cellulose ether, a certain time passes until the cellulose ether increases the viscosity of the mixture. This is interpreted to mean that some amount of time passes

before the cellulose ether dissolves. The specification does not define what an acceptable solvation delay is, and the skilled artisan would not be apprised of the metes and bounds of the claim.

Response to Arguments

Applicant's arguments filed March 20, 2008 have been fully considered but they are not persuasive. Applicant argues that the skilled artisan is well informed of the meaning of solvation delay. However, the claim is indefinite because it recites "solvation delay" without reciting a time which is intended to be within the scope of the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meukart et al. (US 3,072,635, January 8, 1963, of record) in view of Herron et al. (EP 0252649, January 13, 1988, of record).

Meukart et al. teach a method for producing cellulose derivatives comprising treating a cellulose ether with glyoxal [column 1, lines 37-49]. Cellulose ethers such as methyl hydroxyethyl cellulose, ethyl hydroxyethyl cellulose, and others may be used [column 2, lines 10-30]. The glyoxal can be dissolved in a solvent such as acetone,

Art Unit: 1623

methanol, or water, the cellulose derivative suspended therein with agitation for less than 30 minutes, followed by separation of the liquid to give a solid containing about 20 to 80 percent of an adsorbed solution, followed by oven drying about about 100°C, during which the reaction takes place [column 3, lines 14-47]. In one example, the reaction takes place over about 30 minutes [column 5, Example 1]. Glyoxal can be used in an amount of 0.001 to 0.2 mol per mol of cellulose derivative [claim 1]. The products of this method disperse in cold water without forming lumps and dissolve within 15 to 20 minutes [column 3, lines 43-48]. Although Meukart et al. do not address the reversibility of the reaction, the skilled artisan would understand that the reaction of an alcohol and an aldehyde to form a hemiacetal is a reversible one.

Meukart et al. do not teach a reaction with a chemical compound having at least one acid group and at least one aldehyde group, or a reaction with glyoxylic acid.

Herron et al. teach a process of crosslinking cellulose fibers using a dialdehyde or dialdehyde acid analog [page 3, lines 35-46]. Especially preferred are glutaraldehyde, glyoxal, and glyoxylic acid [page 4, lines 28-29].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Meukart et al. using glyoxylic acid instead of glyoxal. Herron et al. teach that either glyoxal or glyoxylic acid are preferred agents for preparing crosslinked cellulose. The skilled artisan could have substituted glyoxylic acid for glyoxal and could have predicted the success of that substitution, based on the teachings of Herron et al.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Response to Arguments

Applicant's arguments filed March 20, 2008 have been fully considered but they are not persuasive. Applicant argues that Menkart does not teach crosslinking with compounds having at least one acid group, that Herron is drawn to permanent crosslinking, and that Herron's working examples incorporate glutyaldehyde. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Herron teaches that both glyoxal and glyoxylic acid are preferred agents for preparing crosslinked cellulose; thus the skilled artisan could have substituted glyoxylic

acid for glyoxal in the method of Menkart, which is also drawn to preparing crosslinked cellulose. This is the basis for the rejection and Applicant has not presented any arguments to refute this basis for rejection. Thus, the rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAYLA BLAND whose telephone number is (571)272-9572. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anna Jiang can be reached on (571) 272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Layla Bland/
Examiner, Art Unit 1623

/Shaojia Anna Jiang, Ph.D./
Supervisory Patent Examiner, Art Unit 1623